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VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 and 14342 Kc. 7095 Kc. channel is used from 0930 to 1030 hours each Sunday for the W.I.A. country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours EAST, on 7146 Kc. Frequency checks are given by VK5WD by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WEST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

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EDITORIAL



OUR INSTITUTE IS GROWING

It is gratifying to look back over almost a decade since the proclamation of peace after the cessation of hostilities of World War II. and note the growth of the Wireless Institute of Australia; it has more than doubled its membership, which, in layman's language means double the work.

All those who have held office in the various Divisions, the Federal Council and the Federal Executive over these years have conjointly contributed to the well being of the Institute, and it is to these members we all owe our thanks for the devotion of time and energy in undertaking the honorary tasks to keep an organisation such as ours well and truly alive in the work of representing the wireless Amateurs of the Commonwealth of Australia.

However, in growing as we have done, the responsibilities that the Institute must shoulder have grown too, with the ever increasing necessity for each and every active administrative member to be one chosen by his Division because of his ability to carry out the particular duties of the office to which he is appointed; a person who has the wholehearted support and co-operation of all the members of his Division behind him.

When all is said and done, an institution can only exist by membership, and the members will be prepared to remain fully financial only if the "powers that be" who govern his little world are in turn prepared to administer with the far-sightedness that brings good to the majority and not a minority clique desiring

privileges for themselves; who will fight for the right of the "man-on-the-street-Amateur" as well as their personal desires, who will meet every Amateur—however lowly his status in life—with the same eagerness and demeanour of good fellowship as they would meet their own personal friends, and who, to coin a colloquialism, "can let their hair down" and be a boy with the boys in understanding the problems, desires, ambitions and requirements of each and every member.

It is this sense of good fellowship to the "little" Amateur who sits quietly—and many times uninvited and lonely—at his Division's meetings that makes him a happy and contented member, one who will recommend to the new Amateur friends he will assuredly make, the warmth and friendship they can have by being a member of the W.I.A. Give to him a warm smile and a handshake, let him have his say however inexperienced you might think he is, encourage him with all the power of your Council behind you to make him feel he is just as important at this meeting as is the President himself, give him the opportunities he rightfully possesses to say what he wants you to do for him and his fellow Amateur.

The "little" Amateur is the one who is potentially the office-bearer of tomorrow, don't kill his ambition before he grows his wings. Our Institute is growing and he is needed!

FEDERAL EXECUTIVE

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A Beginners' Approach to the Calculation of Inductance*

BY T. D. ATHEY,† A.I.R.E. (AUST.)

Very often the question arises "just how does one calculate the inductance required to resonate at a certain frequency" and the answer given is "refer to the tables in a copy of the A.R.R.L. Handbook for inductance versus capacity at a given frequency."

Now this is quite in order, but the fact remains that these tables still do not indicate just how many turns are required, or the diameter of the former or the length of the winding. And so the student sits down and with much perusal of numerous text books and rumpling of his hair (if he has any) and a bit of local QRN, he arrives at the point of giving the show away.

Now most of this can be avoided if he uses his basic training in inductance calculation and by the use of certain given formulae available in students' manuals.

First let him understand that "the self inductance of a circuit depends on the physical shape of the coil and the arrangement of its various parts and the consequent distribution of the lines of flux in the magnetic circuit."

In the Admiralty Handbook the formula for self inductance is given as

$$L = \frac{4\pi^2 N^2 A}{l} \times 10^{-9} \text{ Henry}$$

where N = number of turns per cm. and A = πr^2 where r = radius of coil. Consequently this lengthy formula can be reduced to—

$$L = \frac{4\pi^2 N^2 r^2}{l} \times 10^{-9} \text{ Henry}$$

but it still leaves the student up in the air as regards a simple approach to practical inductance measurement.

Again on referring to a copy of "Practical Radio Communication" (Nilson and Hornung) they give us a somewhat different approach to this application—

$$L = 4\pi^2 r^2 n^2 l \text{ K cms}$$

(Nagaoka Formula)

which is very accurate. Where r and l are expressed in cms and n = number of turns per cm length K = constant factor determined by ratio d/l

and where the coil is a single layer.

Now this is all very well for those who belong to a Brains Trust, but to the average student if he can get his teeth into some other formula that will permit him to make fairly accurate and rapid calculations, this will be so much the better. Thus if he uses the following formula—

$$L = \frac{0.067 \times d^2 \times N^2}{d + 3l} \text{ microhenrys}$$

where d (being diameter of coil) and l (being length of winding) are in inches he will get a reasonably accurate and yet rapid calculation of the value of inductance.

The only catch in this is that the formula only applies for close spaced

turns. However, as close spaced coils are very often used, this formula becomes very useful in rapid calculation.

Continuing in this strain, the question arises "what about iron-cored coils?"

Well, before making any contributions to this field, an examination of the statement is necessary. Iron-cored coils have many complications such as a varying magnetic force due to cross sectional area of the core, the permeability of the material used, which in turn is varied by its composition and also if the current producing the magnetising force is of a varying nature, the value of the permeability μ will vary.

However, if we are prepared to make a formula to cover the most general conditions, namely, that of iron-cored coils with a small air gap, we can use—

$$L = \frac{0.4N^2 \mu A}{l} \times 10^{-9}$$

where L = inductance in Henrys

l = length of air gap in cms.

A = area of surface of iron core at gap.

μ = L .

But to return to air-cored coils.

Again referring to that old standby, The Admiralty Handbook, they also quote a formula which is a reduction of—

$$L = \frac{4\pi^2 n^2 r^2}{l} \times 10^{-9} \text{ Henry}$$

and this is

$$L = r \times n^2 \times F \text{ microhenrys}$$

where r = mean radius of coil

n = number of turns

F = form factor

and form factor is the ratio of $\frac{r}{1+d}$ where l = winding length in inches d = depth of winding or diameter of wire in a single layer coil.

Example of method of measuring coil—



In using this method, a graph of F

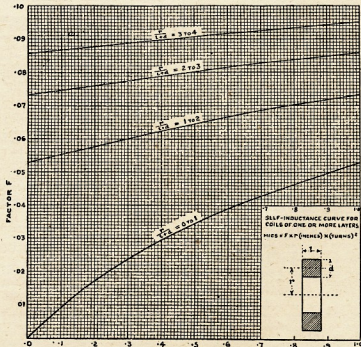
against $\frac{r}{1+d}$ given in the Handbook

and a copy of which is included in this article must be used. It is apparent that any spacing in the length of the coil can be worked out from this method.

To give an example of using this method, the following method is shown in seven easy, self explanatory stages:—

Find the inductance of a single layer air-cored solenoid of—

64 turns of wire of
0.08 inches diameter of wire
2.65 Former radius in inches
16.2 winding length in inches.



* An extract of a lecture at the Queensland Division of the W.I.A.'s. A.O.C.P. Classes.

† 41 Mountford St., New Farm, Brisbane.

Apply Formula $L = r \times n^2 \times F$.

Method—

Step 1:

$$r = 2.65 + 0.04 = 2.69$$

(mean radius)

* Half diam. of wire, $0.08 \div 2 = 0.04$.

Step 2:

$$n = 64 \text{ turns}$$

Step 3:

$$l = 16.2 \text{ inches}$$

Step 4:

$$d = 0.08 \text{ inches}$$

Step 5:

$$\frac{r}{1 + d} = \frac{2.69}{16.2 + 0.08} = \frac{2.69}{16.28} = 0.1652$$

Step 6:

Use graph as accurately as possible using lower scale at bottom of page read off 0.1652, move pointer up to intersecting curve and read off from the left hand scale value of F.

Step 7:

$$\text{Use formula } L = r \times n^2 \times F = 2.69 \times 64^2 \times 0.0145 \text{ microhen.} = 160 \text{ microhenrys.}$$

And there you have it, fairly easy now isn't it chaps.

Sometimes a coil is found to have a different shape to that of a cylindrical one, namely, either a hexagonal or square shape. It is then necessary to make an allowance for the extra inductance.

Take the case of a hexagonal former. Measure each side and then find the centre point A. Describe a circle that

fits inside the boundaries of the hexagon. Then use the formula as shown $L = r \times n^2 \times F$ for length of winding and add 10% of result. The answer will be of sufficient accuracy for all Amateur purposes.

For square formers, apply the same method, only allow 25% extra.



When winding coils, these prime facts are of importance.

Select a wire of a gauge one above that that will handle the current amply.

Use as little length as practicable.

For best inductance, the diameter should be 2.414 times the length. Bearing this in mind when winding will save both space and wire.

To calculate a coil of given inductance proceed as follows:—

1. Select the wire to be used.
2. Determine the space available to place the coil.
3. Determine the diameter (2.414 to length).
4. Estimate the spacing.
5. Assume the length for 3 or 4 different lengths.
6. Work out inductance for each, construct a graph on a piece of 10—10 graph paper and it will be easy to calculate the length of the inductance or the number of turns required.

CONCLUSION

If this article is of any assistance to the beginner that is sufficient. But even though to get maximum inductance with minimum length the diameter should be 2.414 times the length, this is not always practicable. Then he must use his discretion and sacrifice his diameter for length, but always remembering that the efficiency of the coil is deteriorating. However, this cannot always be avoided.

The writer sincerely hopes that this small effort will help those who find coil winding and calculating somewhat of a headache.

The following table may be of some assistance:—

1 centimetre	= 0.3937 inches or 0.01 metre (1 in. = 2.54 cm).
1 Henry	= 1,000,000,000 cm or 10 ⁹ cm.
1 Millihenry	= 1,000,000 cm or 10 ⁶ cm.
1 Microhenry	= 1,000 cm or 10 ³ cm.
1 cm of L	= 0.000000001 (10 ⁻⁹).
1 Henry of L	= 1,000 mH = 1,000,000 uH.

To convert cms to uHs, divide by 1,000 or multiply by 10⁻³.

— . . . —

Improve Your Morse Code

The Candler System Company have advised us that their "Book of Facts" is sent by Air Mail to all enquiries received from readers of "Amateur Radio." For further details refer to the Morse Code advertisement which will be found elsewhere in this magazine.

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1525—21	200, 230, 240	—	—	2.5v.—10a. (1,000v. insul.)	47/6
1305—22	200, 220, 230, 240	—	—	2.5v.—10a. (3,000v. insul.)	75/-

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	Maximum	At Full Rated D.C.				
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A Phasing Type Single Sideband Suppressed Carrier Exciter

PART THREE

BY N. SOUTHWELL,* VK2ZF

The above has been covered in detail, and emphasised, because it has been the downfall already of a number who have attempted to build a phasing type s.s.b. exciter unit, and struck trouble. Your signal is only as good as your phase shift network, both r.f. and a.f. Remember this and take care with them. You will be amply repaid by being able to radiate a good s.s.b. signal. The audio phase shift network is foolproof, and if assembled with care, need not be checked with a c.r.o., unless its performance is doubted. Wiring errors are the biggest source of trouble likely to be encountered, if the precautions outlined have been followed.

ADJUSTMENT

For initial adjustment, an oscilloscope is handy, but by no means necessary. A c.r.o. was available during the initial lining up of the original unit, but as one of the aims was to make an exciter that could be simply and effectively adjusted with the minimum of equipment, the c.r.o. received very little use. Later, when the equipment was functioning satisfactorily, a check was made with the c.r.o. and the conditions of operation could not be improved. Personally, the writer prefers not to use the c.r.o. for lining up purposes now, as the other method is easier and quicker. The c.r.o. is used mainly for monitoring transmissions these days.

Before applying power, check the wiring throughout, then if satisfied, insert only the 807 in its socket, and apply power. The 807 cathode current should run around 70-80 Ma., depending upon the h.t. available. For operating conditions of the tube you can refer to the data sheets dealing with the 807 operating as a class A audio tetrode.

Carefully check to see that the tube is not oscillating at any frequency—low frequency, v.h.f., or around the 14 Mc. region, by using the usual methods to check for oscillation. If any oscillations are found, they must be suppressed before going any further.

The tube will very likely be found to require neutralising. When doing this it will be found handy to use the GEX44 v.t.v.m. circuit to see how adjustments are going, as any 14 Mc. oscillation will produce an indication in the v.t.v.m. circuit.

When you are satisfied the 807 is operating satisfactorily, insert the 6BA6 and apply similar tests to it as to the 807. The operating conditions for the 6BA6 are those listing the tube for use as "remote cutoff class A amplifier." Any instability in this stage must be cleared and it is better done now than later. The tube will be found to behave very similarly to the r.f. stage in a receiver.

With the two linear amplifier stages stable, insert the rest of the tubes in the exciter. Turn the bias on the 6AU6 to maximum, or, open the switch in its cathode lead. The "d.s.b. s.s.b.—n.b.p.m." switch should be in the s.s.b. position.

Applying drive from the v.f.o. at 7100 Kc., tune the 6L6G grid circuit to resonance. If the v.f.o. has a reasonable output of a watt or so, this circuit need not again be touched for operation anywhere in the 14 Mc. band.

Switch the meter to read the bias voltage developed on one of the balanced modulators. Tune the r.f. phase shift circuit till, by switching the meter between the two balanced modulator bias positions, approx. equal bias is obtained on each stage. Leave the 6L6G plate tuning control in this position, having set up a bias voltage of around —8 or —9 volts to the balanced modulators.

Apply a tone of approx. 1,000 cycles to the input of the audio channel. Check for audio output across the two 500 ohm windings driving the balanced modulators. Roughly adjust the two audio channels to the same level. Switch the meter to the EA50 v.t.v.m. circuit. With the 6BA6 grid tank condenser set at minimum, carefully tune the balanced modulators' output tank, watching for a voltage indication on the meter; tune for maximum voltage indication. Then tune the 6BA6 grid circuit for a dip in the meter reading and adjust the circuit for minimum voltage in the link, i.e. minimum meter reading. Check both tank circuits visually to see you are not operating at one extreme limit of the tuning range. If so, adjust the circuit constants so that each circuit will tune to the desired frequency at some intermediate setting of the tuning condenser.

For Circuit Schematic and Coil Data, refer to Part One which appeared in the December, 1952, issue.

It is preferable to use ample capacity in any tank circuit handling s.s.b. energy, so do not aim for low C tank circuits.

Switch the meter to the GEX44 v.t.v.m. circuit, reduce the 6BA6 bias to a fairly low value, then tune the 6BA6 plate and 807 grid circuits, following the same procedure used previously for the two circuits just discussed.

Couple an absorption loop and lamp to the 807 plate tank, and tune for maximum output. Having obtained that, link couple the 807 output to the grid circuit of the linear amplifier you intend driving from the exciter.

Temporarily disconnect the h.t. from this linear stage and wire the grid return through a Ma. meter directly back to the filament, i.e. or cathode, with no means of bias in the circuit, so that with the final filaments alight you now have, when the p.a. grid circuit is tuned to resonance, a sensitive v.t.v.m. circuit. Incidentally, when tuning the p.a. grid to resonance reduce the level of tone fed into the exciter, otherwise you are liable to pin the meter needle on the stop before realising it.

So far the r.f. section has been aligned to the operating frequency, but we have

not attempted to correctly adjust either the r.f. or a.f. phasing networks. The residual carrier leaking through the balanced modulators due to imperfect balance, as described previously, has now to be minimised.

To do this, with the v.f.o. running but with no audio input to the exciter, run the 6BA6 stage gain up, by reducing its bias, until you see indications of current in the meter, temporarily wired in the p.a. grid circuit. This indication is due to the carrier leakage. To reduce this signal we have to add a small capacity in parallel with the plate grid capacity of one half only of each balanced modulator tube.

Solder a length of 3" or 4" of solid core Belden wire, or other stiff insulated wire, to one grid pin of one of the balanced modulators, and bring it close to the plate lead of the same triode unit of that tube. If you have picked the correct grid to make connection to, the carrier leakage will be seen to diminish; connecting to the wrong grid will cause it to increase considerably, and the lead will have to be changed over to the tube's other grid pin.

Find the correct grid to make connection to on each tube. Now by a little careful positioning, and pruning of the length of the two wires you have soldered in, you will finally arrive at a point where you have a short length of wire hard up against the plate lead in each case, which you will find gives a minimum carrier leakage indication. These are the correct positions for the wires, and they can now be permanently positioned by some "Durex" tape or similar material. If you ever change your balanced modulator tubes, or even change the tubes over in their sockets, the carrier leakage will need to be re-adjusted to a minimum.

At intervals during the above operation, return the balanced modulators' tank circuit for maximum carrier leakage indication, the leakage of carrier cannot be completely suppressed but it can be made very small. The residual carrier output in the tank circuit of the p.a. in the writer's transmitter is well below one watt, when peaking up to 100w. on modulation peaks. This represents a ratio of something greater than 40 db. A small amount of carrier is looked upon in some quarters as an asset, as it gives the receiving operator something to go on, as to approximately where he should attempt to re-insert the carrier at his location.

If trouble is encountered in reducing the carrier leakage, check to see that r.f. from the 6L6G plate circuit is not finding its way directly into the balanced modulators' output circuit or into the linear amplifier stages. Too great an output from the 6L6G can give you the above trouble. Several watts output from this stage is more than ample.

The p.a. grid circuit may now be restored to normal and, if desired, can be left connected to the exciter.

The next step is to phase the exciter. The following method is extremely

* 90 Dutton Street, Yagoona, N.S.W.

simple, and is as effective as the much more technical ones.

Switch your receiver on and with its r.f. and i.f. gain backed well off, so that it does not overload, tune in the carrier radiated from the exciter on 14 Mc. Should your receiver be unable to handle the signal on the 14 Mc. fundamental frequency without overloading, tune it instead to the image frequency, which will be much weaker and more easily handled. Naturally you will receive a fair amount of radiation from the 6L6G output circuit, so do not let the apparently strong carrier worry you. Carefully tune the receiver to the centre of the carrier and leave it in the normal condition for the reception of a.m. signals.

Apply tone of 1,000 cycles/sec. or thereabouts to the exciter audio input, and with a multimeter, adjust the audio balance control so that you have equal audio voltages across the 500 ohm transformer secondary windings feeding the balanced modulators. Be careful not to overload the audio driver tubes by trying to make them deliver too much power. Using 500 ohm windings to drive the balanced modulators, it is advisable to keep the voltage developed across them down to around 15 volts r.m.s., to keep well within the ratings of the tubes. The 6SN7GT drivers under the conditions used are good for about 750 milliwatts each.

The higher the impedance of the secondary windings feeding the balanced modulators, the higher the voltage you can obtain across the windings for the same audio power, but be careful, because the amplitude of audio voltage is tied in with the amount of r.f. carrier drive the balanced modulators require for proper operation. Do not try and drive the balanced modulators too hard or the output you obtain will not be s.s.b. if the tubes are overloaded, but something very different.

The foregoing audio voltage balancing of the a.f. channels will give you an approximate positioning for your audio balance control.

Check, and adjust, the r.f. phase shift network for equal voltage drives to each balanced modulator, thus getting an approximate setting for that control. Also, then, move the meter switch off the balanced modulators' metering positions.

Now, adjust your receiver gain till you have a comfortable level of tone coming from the speaker, then simultaneously adjust the "audio balance" control from one hand and the r.f. phase shift network condenser with the other hand, in exactly the same manner as you would adjust the two controls on a general purpose bridge when checking the value of an inductance or a capacity. With a little experimenting you will find a position for each control where the level of tone heard from the speaker drops to a low level, the null will be fairly sharp and quite definite. Adjust the two controls for a minimum of tone from the receiver loud speaker, then words adjust for minimum amplitude modulation as heard on the receiver.

It will surprise you how far you can reduce the level of tone picked up through the receiver operating in its

a.m. condition. You will not be able to eliminate the tone completely because this system of s.s.b. transmission has its limitations and even a modulation level of a few per cent. sounds a large amount in a receiver when operating next to the transmitter concerned.

Your exciter is now correctly phased for that particular sideband. If you have wired in the "sideband selector switch" to give you a choice of sidebands radiated, throw this switch over and check the phasing of the exciter on the other sideband. You may find that a small variation is necessary, in the settings of your phasing controls for optimum results on this sideband as compared with the other sideband. If so, work to get a position where equal results are obtained on either sideband when the "sideband selector switch" is operated.

If sideband selection has not been incorporated, this is one adjustment you are saved. In actual practice the switch is seldom used.

Should the r.f. phase shift network condenser end up tuning at its maximum capacity, either adjust the slug in the network coil, or parallel a small capacity across each section of the condenser until you can tune right through the null position. It will be found that stray capacities and coupling in this circuit will have an effect upon the exact size of the r.f. phase shift network components, but the values given are approximately correct and the final sizes of components will not vary greatly from them.

If it is desired to use a c.r.o. for the phasing adjustment, couple the vertical plates via a link, to the 807 tank coil, and with either 50 cycles or internal time sweep applied to the horizontal plates, adjust the phasing controls to obtain what appears to be an unmodulated r.f. carrier, while feeding tone to the exciter. There will always be a slight indication of amplitude modulation, shown up as a small ripple on the edges of the pattern under the best of conditions.

To check operation of the audio phase shift network with a c.r.o., first check the c.r.o. vertical and horizontal amplifiers to ascertain that their phase shifts are satisfactory over the frequency range required, by connecting the c.r.o. horizontal and vertical inputs in parallel across a b.f.o.'s output. Adjust the gain of each c.r.o. channel to give about the same deflection. Vary the b.f.o.'s frequency, the pattern observed should be a thin straight line, having a slope of around 45°.

If you are unable to get the same sensitivity on both plates, with zero phase difference between channels, the angle of slope will change from 45° to some other figure, and the accuracy of the test will not be as good. If at some point on the frequency range the pattern is not a straight line, a little juggling of the channel gains may enable you to correct things, but you will alter the angle of slope of the pattern in doing so.

The c.r.o. having proved satisfactory, connect the two c.r.o. inputs across the two outputs from the audio phase shift network. The 6SN7GT audio driver

tubes may be removed or can be left in their sockets, it is immaterial. Do not forget to include the two voltage divider networks across the two outputs of the phase shift network in your test circuit, as these components have been taken into account when the output resistor values, R2 and R5 (in Figs. 2 and 3) have been calculated, and the divider networks can be considered as part of the complete network, though the values of the voltage divider components is not critical, as their values are so much greater than either R2 or R5 of Figs. 2 and 3.

Apply tone to the exciter and running the b.f.o. over the range from 300 to 3,000 c.p.s. should produce a pattern on the c.r.o. that is very close to circular, the closer it is the better; a circle indicating a 90° phase shift between channels. Outside the operating range the pattern will slowly change away from circular. If the phase shift is found incorrect, firstly check your circuit wiring—it is somewhat tricky—then measure your components' values individually.

The initial tuning up procedure may sound very tedious, but if all is functioning correctly it takes no great amount of time, the existing exciter can be lined up and phased now, completely, in less than five minutes. In the initial line-up the greatest amount of time will most likely be spent in making all the various tuned circuits hit the correct frequency range, a grid dip oscillator, if available, can save much time in this regard.

GENERAL

After a number of months of operation on the 14 Mc. band with this exciter, the writer has found it quite satisfactory, stable, and easily adjusted. Frequency shifts of up to ± 100 Kc. have been made from the frequency on which the unit was lined up on, without any trouble occurring, and very little loss of drive; sideband rejection over this range of frequencies appeared to be unaltered.

S.s.b. exciters require power supplies that are well filtered. Should you find when you operate on s.s.b. that a solid low frequency hum comes up on your channel, when an a.m. receiver tunes across it, but disappears when you are tuned in as an s.s.b. signal should be tuned, investigate the filtering of your h.t. supply. If that is good, try connecting the filament circuit of the exciter tubes to a positive voltage of about 30 volts, instead of to ground. This positive voltage prevents the cathodes becoming positive in respect to the heaters and stops any cathode-heater emission from occurring. This emission having a large a.c. component causes a loud low frequency hum.

In conclusion, I would like to state that this article has been kept as simple as possible purposely, and free of mathematical formulae, in an endeavour to make it of interest to as wide a range of Amateurs as possible. In doing so it is hoped that it has aroused some interest in s.s.b. transmission, or at least given someone a better insight of how circuits peculiar to this particular type of s.s.b. transmitter operate.

VK3WI Accurate Frequency Transmissions

There have been several changes made this year. Firstly, the time of commencement has been changed, the voice announcement taking place at 7.50 p.m. and the first Accurate Frequency Transmission at 8 p.m.

Also, to fit in with the Frequency Measuring Centre who kindly check the frequencies transmitted, it may be necessary to change the dates announced below. However, we will endeavour to give due warning of any changes, either through the magazine or over the Sunday broadcasts.

Dates for the next twelve months are as follows:—

- **Thursday, 26th February, 1953;** 7000 Kc. to 7150 Kc. in 20 Kc. intervals with band edge markers at 7000 Kc. and 7150 Kc. Commencing at 7000 Kc., 7020 Kc., 7040 Kc. and 20 Kc. steps thereafter.
- **Thursday, 21st May, 1953;** 3500 Kc. to 3800 Kc. in 30 Kc. intervals with band edge markers at 3500 Kc. and 3800 Kc. Commencing at 3500 Kc., 3530 Kc., 3560 Kc. and 30 Kc. steps thereafter.
- **Thursday, 27th August, 1953;** 3500 Kc. to 3800 Kc. in 30 Kc. intervals with band edge markers at 3500 Kc. and 3800 Kc. Commencing at 3500 Kc., then 3515 Kc., 3545 Kc. and 30 Kc. steps thereafter.
- **Thursday, 19th November, 1953;** 7000 Kc. to 7150 Kc. in 20 Kc. intervals with band edge markers at 7000 Kc. and 7150 Kc. Commencing at 7000 Kc., then 7010 Kc., 7030 Kc. and 20 Kc. steps thereafter.

The operating procedure and times of transmissions are as follows: 7.50 p.m., phone transmission on 7146 Kc. with a general call, and information on what is about to take place. 8 p.m., VK3WI changes frequency to 7000 Kc. and calls as follows on c.w. at 12 w.p.m. "AFT (three times), DE VK3WI (three times), then —...— QRG —...— 7000 Kc. (twice)." The key is then held down for one minute, then "QSY 7020 Kc. (twice), DE VK3WI (once), AR."

The transmitter then commences operation on 7020 Kc. and the procedure is repeated until 7150 Kc. is reached, after which there will be a phone transmission on 7146 Kc. and if corrections are immediately available, they will be broadcast at this time, also on the following Sunday broadcast over VK3WI.

The 80 metre transmissions will be the same as the former, only the voice will call on 3573 Kc. and then the checks will start on 3500 Kc. and finish on 3800 Kc. with the exception that the checks will be given every 30 Kc.

SUBSCRIPTIONS

• Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

BOOK REVIEW

4th EDITION RADIOTRON DESIGNERS' HANDBOOK

Every Amateur is familiar with the Radiotron Designers' Handbook, and I suppose the old 3rd edition resides in many a Ham shack throughout Australia today because when it was printed it filled a very definite want—a concise treatment of radio design, tabulated for easy reference.

When it was learned that a new edition of the Radio Designers' Handbook was to be printed, it was waited for with interest, but I must say I was astonished at the size of the Handbook when it arrived. The old edition had about 350 pages, the new one has 1,474 pages, in fact the only similarity seems to be in the size of the pages. The stiff cover on the new edition is a necessity to prevent the same difficulties I had with my old copy, in a book which will have constant use.

The book has seven main parts: (1) The radio valve, (2) General theory and components, (3) Audio frequencies, (4) Radio frequencies, (5) Rectification, regulation, filtering and hum, (6) Complete receiver, (7) Sundry data.

Frankly it is difficult to know where to start, because the whole book is crammed with information, but taking some items at random, the audio amplifier enthusiasts will find they are well catered for, the chapter on negative feedback occupies nearly 100 pages alone, whilst that on loudspeakers and baffles occupies 45 pages. Again the chapter on reproduction from records takes 70 pages. All information is concise and well tabulated, so that every page is filled with interesting information.

One could go on in the same strain throughout the book, but suffice to say, the claim of the authors, "that this book has packed within its covers more useful information than can be found in any other book in the world," is well substantiated, and I feel that the price of 55/- plus 2/6 postage is cheap for the information contained therein.

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A.R.R.L. CONTEST

Phone: Feb. 6-8 and Feb. 20-22

C.W.: Mar. 6-8 and Mar. 20-22

It's time again to ready your station for the A.R.R.L. International DX Competition, to be held in February and March of this year.

This contest, the nineteenth of its kind, gives an opportunity for all Canadian and continental U.S. operators to add new countries to their DX totals, other stations to fill in their W.A.S. and W.A.V. awards, and everyone to check DX operating skill with other operators in his country or A.R.R.L. section. But, whether you have 9 or 9 hundred watts, whether you work 2 or 2 thousand stations, whether you have a wire out the window or a 7 element antenna, you can have a whale of a lot of fun in this annual event.

If you're new to the DX Contest, it won't take you long to catch on. During the contest period, stations outside of the U.S. and Canada will exchange numbers. If the input is 250 watts, your number is 250. If you run only 75 watts, use the number 075. If your input is different on different bands, change the number to approximate the input figure, but don't bother about 0.1 per cent. accuracy on any band—the usual approximation is adequate.

The Rules for this year are similar to last year, a copy of which will be found in the February, 1952, issue of "Amateur Radio." Rules 5 and 11 are the exception. The new ones are:—

5. **Contest Periods:** There are four week-ends, each 48 hours long; two for phone and two for c.w. The phone section starts at 2400 G.C.T. Friday, Feb. 6 and Friday, Feb. 20, ends 2400 G.C.T. Sunday, Feb. 8 and Sunday, Feb. 22. C.w. sections start at 2400 G.C.T. Friday, Mar. 6 and Friday, Mar. 20, ends 2400 G.C.T. Sunday, Mar. 8 and Sunday, Mar. 22.

11. **Reporting:** Contest work must be reported as shown in the sample form. Each entry must include the signed statement as shown in that example. Contest reports must be mailed no later than April 24, 1953, to be eligible for "QST" listing and awards. All DX contest reports become the property of the American Relay League. No contest reports can be returned.

AMATEUR CALL SIGNS

FOR MONTH OF NOVEMBER, 1952

ADDITIONS

- VK—New South Wales
20H—G. R. Hodgson, 10 Ormonde Pde., Hurstville.
2ACI—H. F. Harvey, 513 Mowbray Rd., Lane Cove.
2AEM—A. E. Moreale, 476 Hanel St., Albany.
2AKQ—J. H. Lambert, 4 Joffre St., Hurstville South.
2ALI—C. J. Boyton, Tumut Pond, via Cooma, 48.
2AWQ—C. C. Quin, 91 Carlton Cres., Summer Hill.
Victoria
3EL—S. D. Smith, 54 Essex St., Pascoe Vale.
3QY—C. W. Richardson, 298 Charman Rd., Cheltenham.
3AGJ—G. W. Jane, 20 Coolgardie Ave., East Malvern.
3AZV—A. E. Tinkler, 29 Montana St., Burwood; mobile station operating in Victoria.
Queensland
4CE—C. C. Adeville, Mount Leyshon Rd., Charters Towers.
4VS—V. F. E. Gurn, 347 Rode Rd., Chermide, N.A. Brisbane.

ALTERATIONS

- VK—New South Wales
21L—R.M.B.88, Forest Farm, Darke's Forest, via Helensburgh.
2PC—21 Moncur Street, Marrickville.
2VH—11 Kirala Avenue, Wollongong.
2VN—Queen Street, Barraba.
2YV—16 Church Street, Randwick.
2AEX—14 Hughes Road, Eastwood.
2AGP—12 Seaman Street, Greenwich.
2AIM—Boundary Road, Carlingford.
2AJM—"Carinya," Wakehurst Parkway, Seaforth.
2APW—287 Longfield Street, Cabramatta.
2APW—C/o, 186 Homebush Road, Strathfield.
Victoria
3KG—18 Clayton Road, Balwyn.
3XR—Lyons Street, North Crofton.
3AHR—93 Yarrab Avenue, Balwyn.

- Queensland
40X—54 Evans Avenue, North Mackay.
South Australia
5BG—C/o Station 187, Box 1, Crystal Brook.
5DK—37 Ryan Avenue, Woodville West.
5EK—Cr. Kingston and Anzac Rds., Port Pirie.
5LA—76 Kingston Avenue, Daw Park, Adelaide.
5NW—Huddleston.
5TF—2012 Stuart Park, Darwin.
Tasmania
7HY—304 St. John Street, Launceston.
DELETIONS
New South Wales: VKs 2GH, 2AGE, 2AWK.
Victoria: VKs 3DF, 3ZE, 3AEM (now operating under VK3AEM).
South Australia: VKs SEM, 5QY (now operating under VK3QY), 5WQ (now operating under VK4AQW).
Territories: VKMT.

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FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEW SOUTH WALES V.H.F. GROUP

144 Mc. Bill 2ACT, of Dubbo, has a new crystal control converter, so keep an eye out for him in country stations zone, 144 to 144.1 Mc. 2TA has lost his 2 mx beam, during a gale, but he will be on again soon. He can still work Hugo 2WH at Forbes, almost 70 miles. Trevor 2NS has been hearing Sydney stations on 2 mx, wait till he gets into his new location! Newcastle stations have been coming in solid in Sydney, S9 all around. Neil 2XK with only 4w, was S9 in Sydney for three hours and no fading. Neil's rig is a mod. osc., but stable. 2BZ is the most consistent VK2 from Newcastle. 2ADT has been away on holidays, hope they were enjoyable Jack; missed you on 144 Mc.

2HL is leaving on 10th January. His QTH will be 30 miles out of Cooma and he will be 3,000 ft. high, he has 144 and 7 Mc. gear. Sid 2AVK has a much better signal on 2 now he has his beam up about 50 ft. high; S9 in Sydney. 2XX, 2ANF and 2ABO have been mobile again with fine signals.

50 Mc. News 2WJ has worked VK9 on 50.65 Mc. Good work John, VK9s have been heard by others in Sydney. Good break throughs have been recorded in N.S.W. on 50 Mc. this month, although not as good as other States. The Ross Hull Memorial Contest is now over and it looks as though the VK4s have it in the bag. Good luck to them. Hugo 2WH has been heard in Sydney on 50 Mc. 2DQ and 2BY have also been heard at S9—2HO.

SOUTH AUSTRALIA

The Broken Hill boys 2DQ and 2BY seem to be getting their share on 26th Dec. Nice work! Dudi 5FP, operating portable on 288 Mc. at Kapunda, succeeded in contacting 5RR and 5JJ, of Adelaide. 5KL will be operating from Port Pirie for a few weeks. Show those Northern boys how to do it, Clarence. Talking of Ports, I wonder how they are doing over Lincoln way? Last I heard from that town, things were definitely on the move. Should you hear 5DF give him a shout.

5GL has gone walkabout for ten days or so. The contest won't seem the same without you, Clem. And what will Rollo

do? Another station doing extremely well on 26th was 4XJ. He could be heard for two or three hours working VK2, 3 and 5 Districts.

The local monitoring station recently raised objections to the current mode of operation on v.h.f. The writer still believes there is nothing illegal or objectionable to so called "cross band" operation. Regulation 36 fully justifies it. Technically, it is quite sound on our sparsely occupied v.h. frequencies. The Amateur can provide valuable information on v.h.f. propagation and the less he is restricted, the greater the information gained. It is a fact that certain services are not in the least interested in DX on these frequencies but they would like to know when **not** to use v.h.f. It is sincerely hoped that there will be no change in present Regulations.

5JO reports that ZK2AA on New Island has been receiving VK stations on 50 Mc. ZK2AA transmits c.w. on 50.016 Mc. at 2340 G.M.T. Saturdays and Sundays. Rumor has it that VK6HM, now located on Cocos Island will soon be active on 50 Mc. It will be remembered that Charlie was the first VK6 to work east.

30th Dec. was a field day for the VK4s—if only there had been more stations active. The band was wide open between VK4 and VK5 for 10 hours or more. 4BT passed along the information that 9FM and 9DB were heard on 29th. The writer is wondering if it was 9FM whom he heard near 51 Mc. The only clue is that the station was working someone named Graham.

If you have any ideas on making the local Intra-state v.h.f. contest more attractive this year, let the Council know as soon as possible.

5QR is always interested in making, and what is more important, keeping skeeds for v.h.f. tests on 144 Mc. A word of warning, though. Reg is a progressive type and has faith only in stable equipment.

Heard a newcomer to the band (50 Mc.) asking for a test. The writer gave 5WY a call but there was no response.

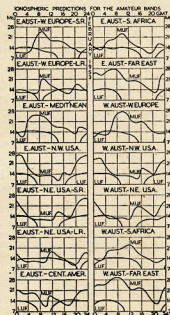
Since commencing these notes advice has been received that 5DF and 5VY are active on 144 Mc. The Adelaide boys

would be pleased to know just what times these fellows are active and would be interested to have details of the equipment in use. Was interested in the attempts of 5QR, 5BO and 5DW to work DX on 144 Mc. Suggest you guys also try when 50 is folding, not just at the height of 50 Mc. openings. Want confirmation? Look up Edward P's. accounts of 144 Mc. DX.

On the eve of mailing these notes a letter was received from 2DQ outlining the equipment in use at the Hill. 2BY is using 809s p.p. on 50 and 2DQ 807s. Both also have xtal converters on 50 and 144 Mc. Frequencies are: 2BY 50.8 and 144.4 Mc., and 2DQ 50.45 and 144.55 Mc.

The third day of the New Year saw the band open in VK5 for some twelve hours. Contacts were made with ZL, VK9, 2, 4 and 6. 5BZ made a welcome re-appearance on 50 during the week. 5KJ made some personal contacts over the holiday period. His old pals were pleased to see him.

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DX COUNTRIES OF THE WORLD

The list of countries as hereunder, and as amended from time to time in Federal Notes, is the Official List to be used in connection with the issue of the Australian DX C.C. Award.

The list below shows first the Country, the Zone number in parenthesis (as used by the "CQ" W.A.Z. Award) and the Amateur Prefix.

Aden & Socotra Is. (21)	VS9
Afghanistan (21)	YA
Alaska (1)	KL7
Albania (15)	ZA
Aladbra Islands (39)	...
Algeria (33)	FA
Andaman & Nicobar Is. (26)	VU5
Angora (14)	PX, YB4
Anglo-Egypt Sudan (34)	ST
Angola (36)	CR6
Argentina (13)	LU
Ascension Island (36)	ZD8
Australia (inc. Tas.) (29, 30)	VK
Austria (15)	(MB9) OE
Azores Islands (14)	CT2
Bahama Islands (8)	VP7
Bahrain Island (21)	MP4B
Baker, Howland & Am. Phoenix Is. (31)	KB6
Balearic Islands (14)	EA6
Barbados (8)	VP6
Basutoland (38)	ZS8
Bechuanaland (38)	ZS9
Belgian Congo (36)	OQ6
Belgium (14)	ON
Bermuda Islands (5)	VP9
Bhutan (22)	...
Bolivia (10)	CP
Bonin & Volcano Is. (Iwo Jima) (27)	KG6
Borneo, Brit. Nth. (28)	VS3
Borneo, Netherl'ds (28)	PK5
Brazil (11)	PY
Brunei (28)	VS5
Bulgaria (20)	LZ
Burma (26)	XZ
Cameroons, French (36)	FE
Canada (2, 3, 4, 5)	VE, VO
Canal Zone (7)	KZ5
Canary Islands (33)	EA8
Cape Verde Is. (35)	CR4
Caroline Islands (27)	KC6
Cayman Islands (8)	VP5
Celebes & Molucca Is. (28)	PK6
Ceylon (22)	VS7
Chagos Islands (39)	VQ8
Channel Islands (14)	GC
Chile (12)	CE
China (23, 24)	(B) C
Christmas Is. (29)	ZC3
Clipperton Is. (7)	FO7
Cocos Island (7)	TI
Cocos Islands (29)	ZC2
Colombia (9)	HK
Comoro Islands (39)	FB8
Cook Islands (32)	ZK1
Corsica (15)	KC
Costa Rica (7)	TI
Cuba (20)	SV
Cuba (8)	CM, CO
Cyprus (20)	(MD7) ZC4
Czechoslovakia (15)	OK
Denmark (14)	OZ
Dodecanese Is. (Rhodes) (20)	SV5

Dominican Republic (8)	HI
Easter Island (12)	...
Ecuador (10)	HC
Egypt (34)	(MD5) SU
Eire (Irish Free State)	EI
England (14)	G
Eritrea (37)	(MD3) M16
Ethiopia (37)	ET
Faeroes, The (14)	OY
Falkland Islands (13)	VP8
Fanning Is. (Washington Is.)	VR3
Fiji Islands (32)	VR2
Finland (15)	OH
Formosa (24)	C3
France (14)	F
French Equa. Africa (36)	FQ
French India (22)	FN
French Indo-China (26)	FI
French Oceania (Tahiti)	FO
French West Africa (35)	FF
Fridtjof Nansen Land (Franz Josef Land) (40)	UA1
Galapagos Is. (10)	(HC8) ZD3
Gambia (35)	ZD3
Germany (14, 15)	ZB2
Gibraltar (14)	ZB2
Gilbert, Ellice & Ocean Is. (31)	VR1
Goa (Portu. India) (22)	CR8
Gold Coast and British Togoland (35)	ZD4
Greece (20)	SV
Greenland (40)	OX
Guadeloupe (8)	FG
Guantanamo Bay (8)	KG4
Guatemala (7)	TG
Guiana, British (9)	VP3
Guiana, French, and Innini (9)	FY
Guiana, Netherlands (Surinam) (9)	PZ
Guinea, Portuguese (35)	CR5
Guinea, Spanish (35)	EA0
Haiti (8)	HH
Hawaiian Islands (31)	KH6
Heard Island (39)	VK1
Honduras (7)	HR
Honduras, British (7)	VP1
Hong Kong (24)	VS6
Hungary (15)	HA
Iceland (40)	TF
Idni (33)	...
India (22)	VU
Iran (21)	EP, EQ
Iraq (21)	(MD6) Y1
Ireland, Northern (14)	GI
Isle of Man (14)	GD
Israel (20)	4X4
Italy (15)	I
Jamaica (8)	VP5
Jan Mayen Island (40)	...
Japan (25)	JA
Jarvis & Palmyra Is. (31)	KP6
Java (26)	KJ6
Johnston Island (31)	KJ6
Kenya (37)	VQ4
Kerguelon Is. (39)	FB8
Korea (25)	HL
Kuwait (21)	(VT1) MP4K
Laccadive Is. (22)	VU4
Lebanon (20)	OD5, AR8
Leeward Is. (8)	VP2
Liberia (35)	EL
Libya (34)	5A2 (MC1), MD1, MD2, MT2
Liechtenstein (15)	HE1

Luxembourg (14)	LX
Macau (24)	CR9
Macquarie Is. (30)	VK1
Madagascar (39)	FB
Madeira Islands (33)	CT3
Malaya (28)	VS2
Maldives Islands (22)	VS9
Malta (15)	ZB1
Manchuria (24)	C9
Marianas Is. (Guam) (27)	KG6
Marion Is. (and Prince Edward Is.) (39)	ZS2
Marshall Islands (31)	KX6
Martinique (8)	FM
Mauritius (39)	VQ8
Mexico (6)	(MD4) XE
Midway Island (31)	KM6
Miquelon & St. Pierre Is. (5)	FP
Monaco (14)	3A2
Mongolian Rep. (Outer) (23)	(JT) CN8
Morocco, French (33)	CN8
Morocco, Spanish (33)	EA9
Mozambique (37)	CR7
Nepal (22)	VU7
Netherlands (14)	PA
Netherlands West Indies (9)	PJ
New Amsterdam Is. (29)	FB8
New Caledonia (32)	FK
New Guinea, Neth. (28)	PK7
New Guinea, Territory of (28)	VK9
New Hebrides (32)	FU, YJ
New Zealand (32)	ZL
Nicaragua (7)	YN
Niger (35, 36)	ZD2
Niue (32)	ZK2
Norfolk Island (32)	VK9
Norway (14)	LA
Nyasaland (37)	ZD6
Oman, Trucial (21)	MP4
Pakistan (22)	AP
Pai (Pelew) Is. (27)	KG6
Palestine, Arab (20)	ZC8
Panama (7)	HP
Papua Territory (28)	VK9
Paraguay (11)	ZP
Pertu (10)	CA
Philippine Islands (27)	DU
Pitcairn Island (32)	VR6
Poland (15)	SP
Portugal (14)	CT1
Principe & Sao Thome Is. (36)	...
Puerto Rico (8)	KP4
Reunion Island (39)	FR7
Rhodesia, North. (36)	VQ2
Rhodesia, Southern (38)	ZE
Rio de Oro (33)	(EA8)
Rumania (20)	YO
Ryukyu Is. (Okinawa) (25)	KR6
Saarland (15)	9S4
St. Helena (36)	ZD7
St. Paul & New Amsterdam Is. (39)	FB8
Salvador (7)	VS
Samoa, American (32)	KS6
Samoa, Western (32)	ZM
San Marino (15)	(M1) VS1
Sarawak (28)	IS
Sardinia (15)	IS
Saudi Arabia (Hejaz & Nejd) (21)	HZ
Scotland (14)	GM

Seychelles (39)	VQ9
Siam (26)	HS
Sierre Leone (35)	ZD1
Sikkim (22)	AC3
Singapore (28)	VS1
Solomon Is. (28)	VR4
Somaliland, British (37) (MD4)	VQ6
Somaliland, French (37)	FL
Somaliland, Italian (37)	(MS4, MD4)
South Georgia (13)	VP8
South Orkney Is. (13)	VP8
South Sandwich Is. (13)	VP8
South Shetland Is. (13)	VP8
Southwest Africa (38)	ZS3
Soviet Union:	European R.S.F.S.R. (16) UA1, 3, 4, 6
Asiatic R.S.F.S.R. (17, 18, 19)	UA9, 0
Ukraine (18)	UB5
Belarus'n S.S.R. (16)	UC2
Azerbaijan (21)	UD6
Georgia (21)	UF6
Armenia (21)	UG6
Turkmen (17)	UH8
Uzbek (17)	UI8
Tadzhik (17)	UJ8
Kazakh (17)	UL7
Kirghiz (17)	UM8
Karelo-Finnish Re-public (16)	UN1
Moldavia (16)	UO5
Lithuania (15)	UP2
Latvia (15)	UQ2
Estonia (15)	UR2
Spain (14)	EA
Sumatra (28)	PK4
Svalbard (Spitzbergen) (40)	LB
Swan Island (8)	KS4
Swaziland (38)	ZS7
Sweden (14)	HB
Switzerland (14)	HB
Syria (20)	YK
Tanganyika Ter. (37)	VQ3
Tangier Zone (33)	EK, KT1
Tannu Tuva (23)	(TT)
Tibet (23)	AC4
Timor, Portuguese (28)	CR10
Togoland, French (35)	FD
Tokelau (Union) Is. (31)	...
Tonga (Friendly) Island (32)	VR5
Transjordan (20)	ZC1, JY
Trieste (15)	AG2, MF2
Trinidad & Tobago (9)	VP4
Tristan da Cunha and Gough Is. (38)	ZD9
Tunisia (33)	(FT) 3V8
Turkey (20)	TA
Turks & Caicos Is. (8)	VP5
Uganda (37)	VQ5
Union of S. Africa (38)	ZS
United States of America (3, 4, 5)	K, W
Uruguay (13)	CX
Vatican City State (15)	HV
Venezuela (9)	YV
Virgin Islands (8)	KV4
Wake Island (31)	KW6
Wales (14)	GW
Windward Is. (8, 9)	VP2
Wrangell Island (19)	...
Yemen (21)	(4W)
Yugoslavia (15)	YU
Zanzibar (37)	VQ1

DX NOTES BY VK7RK*

This game of DX hunting goes through many and varied phases. Some two or three years ago one went DX chasing at any odd hour of the day or night and almost invariably there was some choice bit of DX waiting to swap reports and promise faithfully to QSL—sometimes they did, but often some mishap occurred between QSO and mail box. So, said the gang, "Ham Radio is fine, the bands are wide open and everything in the garden is lovely."

However, the phase changes and it is not now a case of just pushing the key any old time and having the world and his brother on your door step. So, the cry goes up that the bands are terrible, DX a thing of the past and life has lost its interest. The consequence, a lesser number chasing DX which means less for the other fellow to work and so the cycle goes on. But don't be misled by all this talk of poor conditions. Pick your operating times and go chasing it. The same DX is there waiting to QSO you, the same slips still occur on the way to the mail box, and the garden is still lovely if you look at it during the right hours.

This month's listings bear witness to this remark even though activity seems to have been confined mainly to our old standby—14 Mc.

3.5 Mc. has been handed back to its original occupant, QRN, although Eric B.E.R.S.195 did hear 5KO working on this band but have no details of any results.

7 Mc. has also produced more than its fair share of QRN, but through it B.E.R.S.195 logged such stations as KG6AAV, VQ4HJP, VQ4AQ, MB8CA, ZC4GT, KC8QY, 854BE, 4X4DE, VS6CG, F8ADQ, ZC5VS, CTICF, OZ7FA, SU1FX, OE13RN and SM8VC on board ship in the Bay of Biscay. 3AHH had an interesting phone QSO with K6EV cross-band with the K6 on 3.5 Mc. C.w. activity from Hans included DL6GB*, VETVX*, CTICF, YI2AM, 4X4DK and the usual run of Europeans between 1900z—2200z. 2AMB confirmed relations with Ceylon by working VSTNG*, VSTNB*. Was very pleased to receive some comments from another VK3 s.w.I. Don Grantley, who also hears plenty of Europeans during the early mornings and mentions HB9OP, OK1MB, I1ALU, UA1KAL. Ws and VEs are still workable, QRN permitting, most evenings around 0900z to 1300z.

14 Mc. seems to have claimed most attention this month and even the most hardened members of the fraternity will surely admit that these listings contain some really worthwhile DX. Eric B.E.R.S.195 logged the following countries: OD5, FB8, 5A2, 5A3, KA0, OX3, FQ8, FN8, FF8, VQ4, EA9, CR7, MI3, LU6, LU7, LU8, HRI, F08, and CR9. The band opens regularly every night to Europe and Africa at the QTH of 3AHH and Hans lists FB8ZZ*, KJ6AX*, AP2R*, KG4AF*, VS2DF*, OD5AB*, YK1AH* who was working with the year but a

few minutes old. Others heard were F18DJ, AP4A, VU2NB, LU6AJ, EI8J, MP4BBD, KW6BB, 4X4FQ, IS1FIC, 5A3TZ, 2AMB left 7 Mc. to the QRN and Ws and found 4X4FQ*, JY1BB, OD5AB, MP4KAC and LZ1KAB. Don Grantley is most enthusiastic about his initial visit to this band with the observation that 14 is really the goods and don't I agree. Don lists: AP2, CO2, CO7, CM2, CN8, DU1, EA3, FB8, FN8, IS1, KV4, KJ6, KP4, KX6, MI3, OH5, OE3, OE13, PA0, SU1, TI2, VS6, VST, VK1, YU1, YI3, 4X4, 5A3, as well as the more common ones.

An interesting letter from 3AWW tells of stations like TA3AA*, ZB2I*, LZ1KAB* (I think everyone has worked this station now, it appears to be operated by a club), SU1GG*, FB8BE* and ZS9I, CR7AU. Bill is another who comments that ZS is fairly easily worked during afternoons, in some cases as early as 0430z. My own observations conform mostly to the preceding reports with the exception that I cast envious eyes at the FF8 calls. A few countries noted were MI3*, OD5, FB8, VQ4, TA3*, 5A3, ZS6, MP4, 4X4, ZC4, KP4, KG4, KV4, CO2, KJ6, HB9, LZ1, VU2, VS2, FK8, OZ1, OH1, EA3, LA3, EI5, YU2, UG6, GW3, OE5, GC4, plus the more common Europeans during late evenings, JA, KA, VS6, DU, KG6, etc. evenings and W, VE, long path around 2000z to 2200z.

The phone logs are also fairly comprehensive this month, being, from B.E.R.S.195 VR3C, VR4AE, VQ4AC. 3AHH: ZS1H*, ZM6AA*, KB6AQ*, MP4KAC, HC1FG, KR6AC, VR3C, and VS9AW.

From Burnie, 7KB really christened his new beam in a big way, working the following countries: VR4, VR3, VS9, SU5, OD5, HZ1, MP4, F18, MF2, ZC4, IS1, YK1, YI2, YV5, HRI, AP2, HSI, YU1, FK58, 5A3, LU1, 4X4, KT1, ZM6, ZE1, ZES, VQ5, CR7, FB8, VK1, MI3, and a string of ZS calls. Ian does not list any as only heard so it looks as though the beam works everything that is hearable.

From 2AMB comes JA2TO* and HC2JR*. From 4XJ: XZ2KN*, LU3PF*, KA2OM*, VS1FE*, DL4DU*. From Don Grantley MP4KAC and VK9RC. From 3AWW worked: F18, 5A2, SV0, MP4, ST2, VS9, OD5, SU5, HZ1, YK1, ZS6, ZS1, ZS2, YI2, and heard: ZS9, CR7, ZB1. 7RK logged OD5BH, OD5AB, HZ1AB, HZ1MY, MP4KAC, TA2EFA, VU2AT. From 6DX via 7CK comes the dope that Charlie Holman, ev-VK6HM, and now VK1HM on Cocos Island is listening nightly for VK contacts at 1300z on 14160 Kc. with n.b.f.m. pending repairs to his a.m. equipment.

21 Mc. couldn't be expected to stand up under the sort of competition from 14, but 2AWW was justifiably happy with his first South American QSO on this band with CE3CZ* at 1030z on 18th Dec. on phone. Also worked LX1SI* and IS1FIC* to bring his total to 30 on 21 Mc. 7RK spent less time here, but it seems to me that the Europeans are peaking later now and seem to be at

their best around 1130z. Openings are fewer than last month and short skip more often. Among those heard were HB9EO, OE5CA, OH5NK, DL7AA, PAOKX, AP2K. B.E.R.S.195 logged VS1AY on phone. From 5PN I learn that VK1RG is active on 21 Mc.

28 Mc. What would I do without 4XJ? Once more he's the only starter here with W6LUR*, W6CEU*, KH6AJG*, KA2VP*, KA2AG*, and W1WDI/MM in the North Pacific.

QSLs of interest this month are 4QL: FORAC, FR7ZA, FR8AJ, ZC4CF, FY7YC, FB8ZZ, CR7CN and CR9AF for a 7 Mc. QSO. 3AWW: TA3AA*, LZ1KAB* 7RK: YS1O, SP1JF, VK1BS, ZM6AA, CO2OE, OH5NK.

Two QTHs of current interest: TA3AA L. Comdr. A. Kivinish, Tusng, Jamai, 243 Atotok Bldg., Ankara, or c/o A.P.O. 2006 P.M. N.Y. MISLK: Box 374, Asmara, Eritrea.

In conclusion once more many thanks to all those who forwarded notes. Without your help it would be impossible.

DX C.C. LISTING PHONE

Call	No. Ctr.	Call	No. Ctr.
VK4HR	- 12 109	VK4WJ	- 17 122
VK3BZ	- 3 183	VK4RW	- 23 115
VK3EE	- 10 163	VK4JP	- 8 114
VK3E	- 16 155	VK4Z	- 2 122
VK6RU	- 2 152	VK5MS	- 24 109
VK4KS	- 9 152	VK2ADT	- 13 102
VK3E	- 15 150	VK2AB	- 5 109
VK3LN	- 11 141	VK3HO	- 25 102
VK4FJ	- 21 141	VK6PJ	- 19 101
VK3WV	- 14 140	VK3E	- 2 122
VK3UE	- 13 133	VK3JG	- 5 100
VK4WF	- 16 130	VK3GG	- 18 100
VK6DD	- 6 136		

C.W.

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	- 6 207	VK3XK	- 30 128
VK4HR	- 8 190	VK4RF	- 11 125
VK3PH	- 15 182	VK3YD	- 27 123
VK4EL	- 9 167	VK3EK	- 2 122
VK4FJ	- 29 165	VK3JL	- 25 118
VK2EO	- 2 152	VK3PL	- 38 117
VK3CN	- 16 151	VK3ET	- 37 117
VK2GW	- 16 151	VK3UM	- 12 116
VK3RX	- 23 150	VK3YL	- 30 115
VK3E	- 26 150	VK7LJ	- 24 114
VK6SA	- 28 150	VK4DA	- 7 113
VK4QL	- 38 146	VK7LZ	- 17 112
VK3YV	- 4 143	VK4R	- 40 110
VK3E	- 16 142	VK3E	- 40 104
VK6RU	- 18 141	VK2YC	- 34 103
VK3BO	- 10 138	VK3APA	- 14 101
VK3E	- 11 134	VK3E	- 30 100
VK3KB	- 33 133	VK2OA	- 32 101
VK4DO	- 20 129	VK7KR	- 22 100
VK3UE	- 21 129	VK3AE	- 35 100

OTHER

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	- 4 220	VK7LZ	- 32 116
VK4HR	- 7 210	VK3JA	- 46 116
VK3E	- 16 195	VK3ASW	- 30 116
VK3UE	- 12 190	VK3VJ	- 43 114
VK6RU	- 8 186	VK2ADT	- 14 113
VK3E	- 16 184	VK3E	- 44 114
VK3HG	- 3 171	VK3MM	- 49 111
VK6KW	- 13 171	VK4R8	- 21 110
VK2DI	- 2 167	VK3E	- 30 110
VK3E	- 1 167	VK3HO	- 38 110
VK4EL	- 10 167	VK2ZZ	- 25 108
VK4KS	- 24 167	VK3E	- 11 106
VK3E	- 45 157	VK3AWN	- 38 105
VK3IAWV	- 45 150	VK3VJ	- 18 104
VK3LN	- 29 144	VK4UL	- 27 104
VK3E	- 26 143	VK3E	- 30 104
VK3MC	- 5 139	VK6PV	- 50 104
VK3OP	- 19 137	VK2HE	- 17 103
VK3E	- 45 133	VK3E	- 38 103
VK6DD	- 22 136	VK2TI	- 37 103
VK3HT	- 41 135	VK6DX	- 42 103
VK2ADE	- 28 133	VK7RK	- 31 102
VK3E	- 45 133	VK4FY	- 38 102
VK2A8A	- 9 128	VK3HJ	- 51 101
VK2AHM	- 20 125	VK3JAC	- 6 100
VK3E	- 30 119	VK3E	- 39 100
VK3HJ	- 32 119		

* 5 Galvin Street, Launceston, Tasmania.



FEDERAL

MORE ACTIVITY ON THE 21 Mc. BAND

The British Post Office has at long last granted the remainder of this band to the Gs for telephonic use, subject to the usual prohibition which applies to first-year licensees and to non-interference with existing services in that country.

Although telephony is now permitted throughout the band, the R.S.G.B. is urging all UK Amateurs to adhere to the combined R.S.G.B. and European Band Plan which recommends that frequencies between 21000 and 21150 Kc. should be used for telephony only and those between 21150 and 21400 Kc. for both telephony and telephony.

It might be as well for Australian Amateurs desiring to use telephony to make provision for designing antennae—particularly beam antennae tuned sharply to a narrow band of frequencies—for maximum operation in the "planned" telephony section of the 21 Mc. band.

Another country to obtain permission for operation in this band is South Africa; ZS calls should be sufficient to entice a few more VKs to participation in what is still considered to be THE DX band in the not too far distant future. Finnish Amateurs also are permitted to use c.w. and phone now on 21 Mc.

TELEVISION INTERFERENCE BOOKLET

The long awaited shipment of the booklet, "Television Interference," edited by Philip S. Rand, WIDBM, and distributed free from the Remington Rand Laboratory of Advanced Research, South Norwalk, Connecticut, U.S.A., has at last arrived and been steered carefully through the sea of red tape surrounding the Customs Office at a cost in hard cash of so low an amount that it hardly bears mention; the cost in honorary man hours to obtain possession of a free gift is, however, more than worthy of a mention, but that is another story which may be recorded some time in all its colorful, humorous and amusing representation of musclebound officials. Remind us to tell you some time!

By the time this issue of the magazine goes to press those interested members and readers who wrote in to reserve a copy of this really handsome booklet will have received their copy. There is quite a quantity of copies to spare, and unless we miss our guess there will be a wild panic for copies once the "ordered" copies have been received and seen by others. But don't be disappointed if you miss out because there are insufficient copies to give one to every member of the W.I.A. A request in writing to the Federal Secretary, W.I.A., Box 2811W, G.P.O., Melbourne, C.I. enclosing 7d. in stamps to cover postage will bring a copy to anyone who writes; these will be distributed in strict order of receipt of request until stocks are exhausted. And please remember, if you miss out, your postage cannot be refunded, but will be paid into Institute funds. Let's hear from you.

49th STATE FOR THE U.S.A.?

Republicans, now in control of the United States Congress, have said they will soon be adding a 49th State to the Union. Advances have been made to General Eisenhower to agree to changing the status of Hawaii from "territory" to "state" and the General has said that Hawaii would get statehood soon.

This is all very interesting with its inherent problem of where to put the 49th star in the pattern of the Stars and Stripes flag. But what effect will it have on Amateur Radio?

Today the Hawaiian Islands under the call sign prefix, KH8, is recognised as a country for anybody's DX C.C. What happens if Hawaii

itself becomes a State of the United States of America? If it's a State it can't be a separate country: it's too far away—it would seem—to be in any W zone; the U.S.A. as it is at present is zoned into areas for call prefix purposes, i.e. under W and K prefixes.

Quite interesting to conjecture on what will happen. Perhaps the powers that be in America will leave it as it is for Amateur purposes and still call it a country!

One interesting thought is that, as a State of the U.S.A., one or two VKs can say they have worked America on six metres!!!

W.I.A. FEDERAL CONVENTION

Although the Divisions—with the exception of VKs, who abstained from voting—were unanimous at the 1952 Convention in agreeing to hold the Federal Convention every two years because of rising costs, they have now reversed their decision in favour of at least holding the function as usual over the Easter break this year in Melbourne.

This does not necessarily rescind the Federal Council's decision to amend the Federal Constitution to provide for the Convention to be held annually, or at any longer period of time as the Council may decide from time to time.

But it does seem to indicate that members should take time off to study what appears to be a matter difficult of decision by Divisional Councils collectively, to see that the next delegate to a convention is really briefed to decide these issues once and for all.

Anyway, the Convention will be held, so let's hope that there are fewer agenda items to discuss and more time to discuss them, and that they are real "history-making" ones.

FEDERAL QSL BUREAU

JYIAJ, George Haley, R.A.F., Amman, Jordan, solicits contacts and reports. He and JYIXY, also JYIBB, are on 14 Mc.

The S.R.A.L. (Finland) advises that Olli Hama has been granted the 21 Mc. band as from 1st November last. 21000-21150 Kc. has been allotted to telephony only and 21150-21450 Kc.

SILENT KEY

It is with deep regret that we record the passing of:—

VK2IS, Ivan Shearman. 27/12/52.

VK2AIA, Jim. On 1/1/53.

Ex-VK2AJF, Wal. Lloyd. 14/12/52.

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VALE WALLY LLOYD, EX-VK2AJF

Amateurs active in Newcastle pre-remember the late Wally Lloyd who was in the district to build a rotary beam. The tower and boom, constructed mainly of driftwood, were erected in Warburton, North Stockton. The elements were wire (no dual tube then) with bamboo spreaders, and with 20 ft. cranked, and with 10 ft. QTH North W.B.E., etc., in 12 months. Wal was always an ardent supporter of the W.I.A. and did all in his power to encourage others to join. An employee of the P.M.G. at Stockton, Wal joined the Civil Aviation Dept. as an Aeradio Operator just prior to World War II. He was stationed at Warrington, W.A. While there he destroyed all his possessions including Ham gear, and although he was not able to contact his friends, his Ham friendships. His next move was to King Island, after which he was promoted to O.I.C. at Longreach, Queensland, where he served for three years. At the time of his death he was Senior Communications Watch Supervisor at Brisbane Aeradio.

On 14th December on his way to Newcastle with his wife for annual leave, Wal suffered cerebral haemorrhage and died instantly. His body was brought to Newcastle and the friends of many years duration acted as pall-bearers; they were VKs 2BZ, 2AHA and 2AEZ of the Hunter Branch, W.A.A. He will not be forgotten by many Hams whom he encouraged in the earlier days, and to whom he gave every possible assistance.

VALE IVAN SHEARMAN, VK2IS

When Ivan Shearman, VK2IS, passed from this life on 27th December, 1952, at the early age of 27 years, he left behind a host of evidence of his good deeds. The Hunter Branch, the W.I.A., was one of the organisations in Newcastle to benefit from his organising ability and gift of entertaining. When the Branch staged its first Xmas Party in December, 1951, Ivan played no small part in making it the huge success it was. From the moment he was elected to the Committee he did not let up; whether it was assisting the ladies in the tremendous task of buying presents for the kiddies, or playing the piano—only he could—being M.C. This was typical of him and the manner in which he undertook the countless jobs asked of him. He acted as producer, script writer, composer, actor and pianist, raised thousands of pounds for charities and voluntary organisations. His energy was amazing and he passed on to his fellows his tremendous enthusiasm for the project in hand.

Ivan was always interested in radio, but on leaving school he became apprenticed as a piano tuner, at which job he excelled. With his apprenticeship completed at an early age, and World War II in full swing he joined the Newcastle Squadron Air Training Corps and quickly became a Sergeant. Soon as he was of age he joined the R.A.A.F. and trained as a Radar Operator. While serving in the Far North he played a large part in organising and entertaining his own personnel. On discharge Ivan assisted the Newcastle Air Force Association with stage productions, etc.

The radio bug soon started biting strongly, and Ivan joined the W.I.A. as an Associate, but in October, 1950, gained the A.O.C.P. and a month or so later the full licence. Unlucky who begin on the lower frequencies, Ivan started on 144 Mc. putting a good signal all over the Hunter Valley with a 500 watt and 5/2 beam. Early in 1951 he migrated to 7 and 14 Mc. and his cheery voice was soon heard and again was heard by those who knew him by voice only felt his enthusiasm and zest. Ivan's artistic gift was shown in the layout and colour scheme of his rig. A lot of good recordings, Ivan built many fine amplifiers, and experimented with various mechanical systems on his rig. Also in the period of his work he operated with Hunter Branch teams in National Field Days and Urunga Conventions. Although not so active in 1952, he was still keen and hoping soon to devote more time to radio.

Ivan was the true Ham spirit and he was always ready to help a fellow Amateur. The funeral was attended by hundreds of people representing all sections of Newcastle. Hunter Branch of W.I.A. was represented by Vice-President, Edna Clarke, 2BZ, and many Amateurs and Associates. Harold Whyte, 2AHA, acted as pall-bearer. The flower-laden casket, the air, a basket containing money raised by Ivan's efforts) mounted on a trailer, carried the casket to the Crematorium. The beautiful floral tributes were later placed on the War Memorial. Amateurs will remember VK2IS.

to both c.w. and phone. Additionally the 3.5 Mc. band has been subdivided, 3500-3600 Kc. to telephony only and 3600-3900 Kc. telephony only.

The correct address of the QSL Bureau for Alaska is: Box 73, Douglas, Alaska.

The full address of the EI Bureau is: EISZ, D. O'Brien, 23 Orwell Gardens, Rathgar, Dublin, Eire.

GODPSS, Stan Shonfield, 11 A.M.Q., R.A.F., Jurby, Isle of Man, has named the new station YIZAM is the R.A.F. Hq. Radio Club, Habbaniya, M.F.A.F. 19, British Forces, Iraq, while YTPD is F/O Dobson (ex-SUIPD) at the same address.

VQSCY advises through VK6MK that he has now despatched QSLs to all VK stations. As they are coming surface mail, it may be some time before they reach Australia. VQSCY is particularly anxious to contact VK1 and VK7 stations. He is on phone around 1400 G.M.T. on 14225 Kc.

W. C. Gee, VK3WG, is returning to his home address in Sandy Bay, Hobart, in April.

Related cards relating to contact of end of 1951 have just arrived from CETZQ.

The first Ham Festival in India took place at Delhi from 10th to 13th January. Those who accepted the opportunity to contact a bunch of VU Hams who attended the Festival and were active on 14 and 28 Mc. Unfortunately, the information on the event did not arrive in time to permit of advance publicity. The Festival was sponsored by the Delhi Amateur Radio Society.

NEW SOUTH WALES

The December meeting of the N.S.W. Branch was held at Science House on Friday, the 19th, under the chairmanship of the President, John Moyle. The meeting was a week early on account of Xmas and was of rather special nature for the same reason. After the usual formalities including minutes, correspondence, etc., the motion regarding the resignation of Vice-President, J. R. G. of which notice had been given at last month's meeting, was debated. To our shame, the motion was agreed to the regret was lost by a small majority. The writer for one, did not think it possible that any meeting of this Division would vote virtually for the termination of our official organ. One prefers to think that after a lengthy debate, the motion not being read again before the vote, some of those voting against the motion were not clear as to just how they were voting and thought they were voting against the eclipse of the journal. One can only hope that other States will carry the day in favour of the increase and so allow its publication to continue.

The remainder of the meeting was devoted to films, the talkie machine being operated by our Treasurer, Stan Owen. Four films were shown. The first was an old Charlie Chaplin film, modernised with the sound effects. The second was "Titles Unlimited" dealing with the textile industry in the U.S.A. The third was "Television is here again" which gives an account from the inside of the BBC television service, and finally "The Littlest Angel" which brought our thoughts back to Christmas. The films were much appreciated and after the meeting, supper was served in the adjoining room by way of a special Christmas gesture.

WESTERN SUBURBS

We regret to state that one of the older Hams has passed on. We refer to 2AAG, G. Stratfield. Jim has been ill for some months and has been confined to his home, but as his friends were hopeful of a speedy recovery for him, it became necessary for him to undergo a serious operation and his passing took place on the afternoon of New Year's Day. To his widow goes our deepest sympathy.

2AAB has done things to the modulator and the same effort is coming up at 2ACD, having seen the light. 2APT is soon getting organised with the 75 ft. mast and 40 ft. boom. 2AGX gets the signal over the new power wires. 2XCH and 2YV have been holidaying, as has 2NJJ; hope you cannot expect the signal from 2NJJ to get out, increased the height of the antenna to about 12 ft. 2A1N now located in VK9—did YY and 2YV still keep on the air. Also on c.w. 2GS doing good work with his gear, good audio Phil. 2IV has heard quite frequently despite intrusions into his time with other activities, operates on 20 and 40 m. 2AGX has been on again for late, pleased the time has not all run out Bob. 2APL puts out nice signal from Parramatta, and 2HJ hard to copy but 2HJ.

2AEK is doing very well, in the few weeks on the air has worked a lot of DX, a G on the first night on 20 m. 2AGX is doing very well, in the few weeks on the air has worked a lot of DX, a G on the first night on 20 m. 2AGX gets around also, signal getting better and better. 2AGG and 2ARF are a closed book to us here as they are not yet set up. 2AGX will come in the winter. 2AXZ and 2ASW were off to Adelaide for the Xmas festivities and had a real good time. 2ARA is another on holidays,

presumably giving the North Coast a go. 2MDD heard occasionally as is another from that area, 2ABO, that fellow gets on 144 and 21 Mc.

The Burwood Radio Club held a Xmas Party last month, quite an affair, as many were able to tell. Meetings are held regularly on Tuesdays at Greenwood Hall, Liverpool Road, Enfield; buses pass the door. Visitors welcome at all times.

2AAH has a nice vertical antenna which does a fine job and the beam will be up one day soon we hear tell. Please pass my news along to 2ACD.

HUNTER BRANCH

Although we knew he was very ill, it was still a great shock to most of us when Ivan Shearman, 2IS, passed away two days after Xmas. Hams who operated in Newcastle prior were also shocked at the sudden death of Wally Lloyd who was ex-2AJF. We were further grieved by the death of Bryan, 8-year-old son of former Vice-President, 2AFS, who died as a result of fire which destroyed the home and everything it contained. Our President and Management Committee attended the funeral, and expressed the sympathy of all to Bob and Mrs. Wilson.

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A visitor to Newcastle over Xmas was 4LR, of Townsville, who was escorted around the local shacks and taken on sight seeing tours by Johnnie 2DZ. Rex proved a worthy ambassador for northern VKs and was very grateful to all who entertained him. A number of visitors who came from all parts to our Xmas Social took the opportunity of looking over the local shacks and we enjoyed having them.

The locals followed the Hobart Yacht Race with interest as 2VI was operator on 3V and Geoff had "ups and downs" but put out a consistent signal. Jim 2ZC and family unselfishly sacrificed first part of holidays to help with Xmas Party but the Forster fish got a hiding later. Also gone portable with newly built Tx and Rx using miniature tubes is 2KG; Ken is on Rx trip to Woolgoolah. Dave 2EZ very pleased with Lambton QTH for v.h.f. despite the QRMI 20T demonstrates great advantages of xtal controlled converters. Max will soon have 30 Mc. job perking giving him complete all band coverage. Good to hear 2A1I on 30 again. The news from Maitland is that 2DG lent his 2nd op's motor bike to 2TY for trip to VK3—a 10 mX special 2XQ on most bands but hard man to catch. Joe 2ANL has moved into Coolie City from Maitland and expects to put out night sibs from the "Bill". 2XY got some nice 25 mX DX using two half waves in phase and hearing VK and ZL on 6 with 2ANL's Rx. 2AGY on 6 and 2—working into Big Smoke on latter band. Doug 2ADS struck the jackpot on 6 and rattled up big score in contest. Over festive season Lew 2WU was active on 20. 2WP hollowed down south; Bill may change parallel 80's in TAISC to push-pull. 2PJ has acquired 400 a side tranny and will probably use it on new AB3 or Class B modulator. Xmas brought George 2AGD and Bert 2CN on 40 again and they both puzzled at the idiosyncrasies of motors, rotors, etc.

Vice-President 2DZ, encouraged by 4LR, got the Rothman rig going again over the festive period. Our Secretary 2SF somehow found time to catch some choice late night 40 mX DX; VS8 and VS7, and Varley just missed a VQ4 Treasurer 2KT expects to be chasing 20 mX DX soon with new rig and rotary beam. 2AHA and family spent Xmas at Karuah, and were joined on Boxing Day by 2ANA—some "80's" mixed with oysters were tested! Ernie 2PF helped the Vice-President do some entertaining, and acted as traffic guide too! The gang were pleased to meet Harry 2APX at Xmas Party.

QRL with work as Lakesiders 2KQ, 2AFA and 2AAM. Ass. Les Sparks missed A.O.C.P. by whisker, but he'll do it next time. 2AXM's Bendix factory now has 310 Rx.

Notice of Meeting.—Thanks to co-operation of Technical College Principal, the February meeting will be held on SATURDAY, 14th, when it is anticipated the Sydney V.H.F. Group, led by President John Miller, 2ANF, will demonstrate v.h.f. equipment. Note Saturday.

HUNTER BRANCH XMAS SOCIAL

The 2nd Annual Xmas Party of the Branch was even more successful than the first one, and we had more visitors from distant parts than last year. What is now known to many as the event of the year was held at Henderson Park Hall, Merewether, on Saturday, 13th December. On arrival, guests found the hall beautifully decorated with balloons and streamers, and in the centre a multi-element Xmas Tree covered in fairy lights and gifts. The trickle of arrivals which began soon after 7 p.m. quickly developed into a torrent of Hams and their families. The entertainment got under way with a 16 m.m. talkie comedy, then came community singing. As the final words of "Jingle Bells" rang out, the tinkle of bells was heard and in came Santa carrying a 3 element 144 Mc. beam with bells on the elements. Santa gave presents to the Harmonics, XYLS and YLS, and finally the OMs who each received a good item of radio gear. 2IS, critically ill in hospital, was not forgotten, and Santa called on 2ASJ to receive a gift on behalf of Ivan, to whom it was later delivered and joyously received.

Our guest of honour was a very good friend of Hunter Hams, Dr. Adcock, accompanied by his good wife. Also present were Mr. Pat Lobegier, who represented the P.M.G. Dept., and Asst. E.L. Mr. Frank Hince, and the Divisional Engineer of the P.M.G., Mr. J. White, 2UG, and XYL. They, and visitors from North, South, and West were officially welcomed by Branch President Lionel Swain, 2CS. Next on the schedule was a sumptuous supper prepared by those hardworking souls, the XYLS of the Committee. During the evening ice creams, soft drinks, and sweets were distributed together with a 2XT Special 18 Watter whose omission the OMs tested! Games were held and the winners given prizes. Dancing and games continued until late hours, and all had a grand time.

VICTORIA

The monthly meeting of the VK3 Division was held at the rooms in Queen Street on Wednesday, 7th January, the meeting taking the form of a rag chew. About 20 members were present, this being somewhat less than was expected. From the show of hands at the December meeting, when the possibility of using the rooms was discussed, a roll up of forty to fifty was expected. VK3WI went on for about an hour, giving these present the opportunity of seeing the station under actual operating conditions.

Personally, I feel that a few more evenings of this type are called for, as they give everybody the opportunity to talk over the aspects of Amateur Radio in which they have the most interest. I may be wrong, but judging by the number of fellows who gather in the passage and forget the general business at the normal monthly meetings, two or three rag-chew nights per year are called for. Possibly the feelings of a general meeting could be ascertained on this point.

As I have undertaken to write the monthly VK3 notes, I would appreciate any items of news you may care to pass along. However, for this month I'm left entirely to my own resources, but the Xmas break gave me the time to snoop round the bands a bit. Must hand the palm this month to the gentleman who publicised the fact that he is not a member of the W.I.A. but must go in one night and collect his cards.

Our worthy Secretary, Russell 3SX, spent his holidays erecting a GBFO, and his visitors worked the first DX on it. Never mind Russ—you'll get the card. Quite a few chaps are re-building or about to re-build. Jack 3AZK well on the way, all band-switched too. Bert 3AAF gone portable to the City of Pubs. (Adelaide to you, Mr. Parsons).

Have heard how to cause needless QRM—call CQ on two bands at once. Of course, if a DX station answers your call go back to him. Believe this actually happens in VK3. No wonder I cannot find a clear channel. In town recently was Leigh 3II. Did not see him but did see the famous number plate round Footscray way.

Now is the time to remind one and all that subs are due and payable on 22nd February, so if necessary, go without a few packets of smokes this month, or else you may find yourself short of a couple of copies of "A.R."

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staffs of the Berri Winery, Tarac Co., is the Alex branch." Wouldn't it? This is the Alex branch. I have been throwing mud for some time in these notes. I am awfully sorry, Mr. Kelly, Sir, and if you will be so kind as to come back to me I will see that it does not rear again Sir.

Fred SMA, why didn't you wake me up as to how important Mr. Kelly was, I am terrified that he will be coming to see me and call him Ned, with the rope round his ice cream and jelly, sorry Mr. Kelly, Sir, there I go again!

SCR really believes in Father Xmas and that it is worth the trouble of a bouncing daughter by the name of Anne, mother and daughter are doing fine but I believe that the daughter is doing it all while, Murray is thinking of teaching Anne to catch fish even before teaching her to walk. The MC from NSW is due to arrive in 10 months but has not had the luck of previous years due to lack of "break-through". No one can say that it is because of Hughie trying!

SMA has also been on 50 Mc. a little, had a few contacts in the contest, but Fred has a number of gremlins in his rx which apparently crept in when he moved to Berri. STL has had many contacts, but the SRR on 80 mx at last. Tom is also very active on 20 and 40 Mc, but at the time of writing is flat out fixing the operating of the SRR on 80 mx busy with his many activities including photography, recording, apricot picking, irrigating, etc. "Plin" is also doing well, quite a few mornings. Tom STL and Hobby run a Flannagan and Allen act on 7 Mc. each Sunday morning at 9.00 am. I have been thinking of beginning to think that most of these notes should go to Jack SJD and not to me, but must be busy elsewhere because I have only one or two notes in the last couple of times. Probably busy on another "Heath Robinson" invention.

The last monthly meeting of the Upper Murray gang was held at Springcreek Gully at the QTH of SBC and was attended by practically all the gang. Subjects discussed were: vision, recording (disc and tape), 50 and 144 Mc., antennae, spark oxide rectifiers, and as a final tasty appetizer, a couple of notes on news produced by Mrs. Lloyd. The next meeting will be held at the QTH of SBC and everybody is looking forward to "doing over" the recording gear.

Associate members were well to the fore at the Xmas Get-together when any assistance was wanted. A chap whom I think was named Greer, who was the way from Meningie, placed himself and his utility at our disposal. Tommy Taylor not only gave us the benefit of his experience in making a good meal, but also brought along a number of necessary utensils for the brewing of the tea, and also a plastic bucket was always handy for me to have had a bath in; and last but not least, Norm Colman personally instructed me in the best way to move the furniture to the meeting, finally matching the broom away from me in disgust and finishing the job himself. I was a little hurt at his unkind remarks, but the floor was really dirty and although I was slow I was thorough!

VKS is to have another representative on Mac Island, and the VKS representative Scott Little (SAF) has signified his intention of giving the life on the island a tryout. His brother-in-law, who is a VKS member, is doing it at the moment and apparently has sold Scott the idea. We all hope that Scott keeps the VKS filter that Greg insisted on, because the VKS filter that Greg insisted on the VKS calls so readily, up to now the only filters in their rx's were the VKS and the VKS.

Well, am I going to be very sweet with the dear Editor, here it is the first issue of the new year, and I have only sent him half of my usual copy. No longer will he be able to call me "Padder" Parsons, no longer need he carry the parcel, and I am sure he will not need to no longer need I send him parcels of eggs, butter, cigarettes, and sundry bits of radio gear to ensure that most of my notes are sent to him by my magazine. Confidentially, between you and me, all my usual correspondents have apparently passed out after the Xmas celebration, and I am sure that I will not hear from this month. Still we won't tell the Editor that and possibly he will believe that his sarcastic remarks have been heard.

WESTERN AUSTRALIA

The Editor wants these notes short; this month they are! But this is through no wish of mine. However, under these conditions I have no mail reading and the fact that I have had no reports by any other means, the news this month will be almost non-existent. But I target the 22nd of this month the W.I.A. picnic will be held at Rockingham.

same place as before, on the lawn near the shops. Bring the wife and kids, it will be a social setting with 2 radio sets and a back seat for once.

There have been a few instances of short skip 20 mx contest to hear and it was privileged to catch up with one of them. During this period (one evening early in January), several VKs and VKXs, and a few others, were heard. EKE was making a rotary beam test with 6BG and in Geraldine the signal was 89 on all but two points of the compass—due South and due East. It was only on the latter dropped about two S points! Strange tricks the ionosphere plays at such times. Incidentally, while listening that night I heard a VK3 who was not only knocking over some choice DX, but also had more "h-aliches" to the square foot than any signal I've heard since VK3. His pronunciation of the word "beam" reminded me of "Oh, Mavis!" I might add that while I have yet to hear "Bentley" we have our share of "h-aliches".

The unheralded advent of SMSARG/MM on 7 Mc. c.w. one recent Sunday morning caused quite a flutter. And the same old elbow took place with far too many stations, both phone and c.w., failing to make sure the other chap was finished before he started. I was given a mixture of c.w. and m.c.w. and I found myself wondering what would happen to a VK6 who was a type of "h-aliches" to the square foot. I imagine however that a foreign MM station would enjoy "diplomatic immunity" (like that enjoyed by our 7 Mc. night-time friends). And this is the end of the "h-aliches" for it? Well, it's up to you—either appoint a city Ham as scribe or provide me with some gen. Sorry can't be by c.w. 44 and 144 Mc. for conditions to improve and some juicy scandal to break through. I have a wife and family to keep.

TASMANIA

Since the January meeting has not yet been held, I cannot report on same at time of going to press. The meeting was held on 10th Jan, interesting, as Joe TBJ is going to divulge the know-how on radio control of models, with, with the last day of the bi-annual contest. The last field day was most successful, and most certainly had its humorous interlards. TX's under the control of TLE and 70M were operated in the 33 and 50 Mc. bands, and were heard in the 33 and 50 Mc. bands. TDH and 7AJ were first past the post with Don Davis, VKX, second. A most enjoyable meeting, and interesting to hear that the other is planned for the near future. The next field day tx operators are warned of the inadvisability of directing the antenna near any existing wire which resembles an 80 mx antenna, however. Shock and all that you know.

Greetings to another new full member, Reg TWA, who has quite a few active contacts, quite possibly is on some of the other bands by now. Don't you think that term "full member" is expressive? Reg? Don't get me wrong though.

In passing, members having any agenda items to present are requested to bring them forward as the meeting is postponed.

Two mx news is practically non-exist. TBJ informs me that he has taken "another step forward" and is now a 2 mx operator, and that the only comment I can make on 2 mx is R.I.P. In view of the foregoing, I am watching with great interest the activities of the members interested in 283 Mc. I said watching, not listening.

The new 21 Mc. band is certainly unpredictable in its habits, but from my own observations, quite a few VKs are actively interested in it. Whilst I have not heard any DX yet, numerous inter-late contacts have assured me that they hear and work DX on 21 Mc. Unless you are very lucky, a certain amount of listening is required, but I regard the commercials above the top end as indicators of band conditions. Their strength, or lack of it, does little to mean anything, from my own experience, and it's amazing that a "CQ" or so will do when this band appears quite dead.

My eye still go slightly bulging whenever he thinks of TDH's thirty-three (33) tube RX. No wonder you are having strife in accommodation, the gear is Dave's. I have the right ahead and build that shack. All the boys are right behind you and I am behind all of them, making sure no one is behind me. All you have to do is to show this par to the XLV, having previously advised us of your favourite flows.

NORTHERN TASMANIAN ZONE

For December our meeting was replaced by a sumptuous dinner at the Brisbane Hotel to which almost all zone members, TRK and 7CA unfortunately could not come along

as work intervened. An informal dinner allowed members full scope for discussions on matters of interest to the heart of the Amateur. TGM and 7YL were heard discussing the relative merits of masts and towers and, now, both have masts under construction to grace the beautiful skyline. Gordon has a 12 element 144 Mc. beam up on one of them as this is written and is working on a 20 element tube, VKX, at 24.50. Was spending the Xmas holidays on his mast.

7DE, THY, TDB and associates Percy Crawford, Chas Rittman, Geoff Compton and Mark Smith were all heard giving Henry Solomon good advice on his rx. After many applications of mortice, etc., to get rid of the bugs, Henry's velocity built up from element tube, VKX, at 24.50. Apparently it couldn't stand the shock and has folded up completely. Consensus of opinion was that had he been a little more careful, it would have been better.

7LX having just about finished his 100w. tx, is studying for his b.c. ticket. Social event of the year was the wedding of associate Gordon Bonner to Marjorie Fernall. V.h.f. activity continues with a few breaks on 6 mx. On 144 Mc. 7BQ, 7PF, 7LL and 7GM maintain nightly schedules and are on the lookout for Interstate contacts.

TRK has been so busy writing the DX notes that visiting Hams have to engage a guide to get through the "national park" that was 5 Galvin Street.

NORTH WESTERN ZONE

A dinner at the home of TWA on the 12th December, which was a complete surprise for Ellis, was well attended by members of this zone, and friends and relatives. The dinner, of four courses which included soup, entree, followed by roast chicken, new potatoes and peas, etc., and finished with fruit salad and ice cream, was the appropriate wine at the right temperature being served by an expert waiter. A vote of thanks was given by TRK. After the dinner, guests retired to the lounge for light refreshments and were entertained by a demonstration of records by TSF and a very enjoyable time was had by all.

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SELL—Command Receiver 85 Kc. IF's, suitable "Q" Tuner, converted, £8/5/-, Also 1000v. aside 350 Ma. Transistor, £5/10/-, Apply S.R. Baxter, 76 Newman Ave., Camp Hill, Brisbane.

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SELL—Type A Mk. 3 Transceiver, cathode-modulated, separate AC power supply, 6 inch speaker, £12.3BZ Transmitter £20. Lang, Tintala, Lismore, Vic.

WANTED—AT10 or equivalent, 12 volt power supply. Lang, Tintala, Lismore, Vic.

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English Dual Speed Gramo Motor (33 $\frac{1}{3}$ and 78 r.p.m.) and Collaro High Fidelity Magnetic Pick-up in streamlined leatherette carrying case as illustrated. Reduced from £14/19/6 to **£8/19/6**



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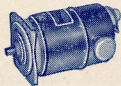


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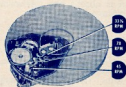
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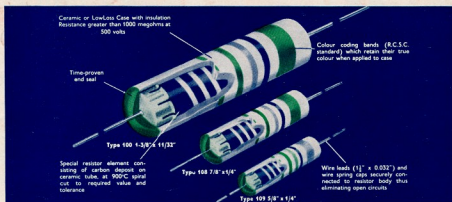
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Tear out and file this handy conversion table

COLOUR CODE

In the standardised system of colour coding the colours are read from the end of the resistor adjacent to the colour bands. The third colour always indicates the number of "noughts" following the first two numerals. The colour code is as follows:—

Black . . . 0	Green . . . 5
Brown . . 1	Blue . . . 6
Red 2	Violet . . 7
Orange . . 3	Grey . . . 8
Yellow . . 4	White . . 9

If a fourth band is added on resistors, it indicates the tolerance according to the following code:—

Gold, $\pm 5\%$ tolerance;
Silver, $\pm 10\%$ tolerance.

If the fourth metallic indication is absent, the tolerance is assumed to be 20%.

Examples:

1. Red, Violet, Orange, Silver—27,000 ohms $\pm 10\%$.
2. Yellow, Violet, Black, Gold—47 ohms $\pm 5\%$.
3. Blue, Grey, Brown—680 ohms $\pm 20\%$.

INTERNATIONAL PREFERRED VALUES (10% Tolerance)

The following table lists the standard resistor values in ohms, comprising the 10% Tolerance Range. Each resistor covers values within $\pm 10\%$ of its nominal value.

Pre. V. Res. Range	Pref. Val. Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10—10-11	330—297-363	10,000—	9,000-11,000	330,000—	297,000-363,000
12—11-13	390—351-429	12,000—	10,800-13,200	390,000—	351,000-429,000
15—14-16	470—423-517	15,000—	13,500-16,500	470,000—	423,000-517,000
18—17-19	560—504-616	18,000—	16,200-19,800	560,000—	504,000-616,000
22—20-24	680—612-748	22,000—	19,800-24,200	680,000—	612,000-748,000
27—25-30	820—738-902	27,000—	24,300-29,700	820,000—	738,000-902,000
33—30-36	1,000—900-1,100	33,000—	29,700-36,300	1.0 meg.—	0.9—1.1 meg
39—36-42	1,200—1,080-1,320	39,000—	35,100-42,900	1.2 meg.—	1.08-1.32 meg
47—43-51	1,500—1,350-1,650	47,000—	42,300-51,700	1.5 meg.—	1.35-1.65 meg.
56—52-61	1,800—1,620-1,980	56,000—	50,400-61,600	1.8 meg.—	1.62-1.98 meg.
68—62-74	2,200—1,980-2,420	68,000—	61,200-74,800	2.2 meg.—	1.98-2.42 meg.
82—74-90	2,700—2,430-2,970	82,000—	73,800-90,200	2.7 meg.—	2.43-2.97 meg.
100—90-110	3,300—2,970-3,630	100,000—	90,000-110,000	3.3 meg.—	2.97-3.63 meg.
120—108-132	3,900—3,510-4,290	120,000—	108,000-132,000	3.9 meg.—	3.51-4.29 meg.
150—135-165	4,700—4,230-5,170	150,000—	135,000-165,000	4.7 meg.—	4.23-5.17 meg.
180—162-198	5,600—5,040-6,160	180,000—	162,000-198,000	5.6 meg.—	5.04-6.16 meg.
220—198-242	6,800—6,120-7,480	220,000—	198,000-242,000	6.8 meg.—	6.12-7.48 meg.
270—243-297	8,200—7,380-9,020	270,000—	243,000-297,000	8.2 meg.—	7.38-9.02 meg.

INTERNATIONAL PREFERRED VALUES (20% Tolerance)

Pre. V. Res. Range	Pref. Val. Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10—10-12	330—264-396	10,000—	8,000-12,000	470,000—	376,000-564,000
15—12-18	470—376-564	15,000—	12,000-18,000	680,000—	544,000-816,000
22—18-26	680—544-820	22,000—	17,600-26,400	1.0 meg.—	0.80-1.20 meg.
33—27-39	1,000—800-1,200	33,000—	26,400-39,600	1.5 meg.—	1.20-1.80 meg.
47—38-56	1,500—1,200-1,800	47,000—	37,600-56,400	2.2 meg.—	1.76-2.64 meg.
68—55-81	2,200—1,760-2,640	68,000—	54,400-81,600	3.3 meg.—	2.64-3.96 meg.
100—80-120	3,300—2,640-3,960	100,000—	80,000-120,000	4.7 meg.—	3.76-5.64 meg.
150—120-180	4,700—3,760-5,640	150,000—	120,000-180,000	6.8 meg.—	5.44-8.16 meg.
220—178-264	6,800—5,440-8,160	220,000—	176,000-264,000	10.0 meg.—	8.00-10.0 meg.
		330,000—	264,000-396,000		

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